II. AMENDMENTS TO THE CLAIMS

Claims 1-34. (Canceled)

Claim 35. (New) A process for the production of a catalyst support with an aluminum content of less than 0.3 wt.%, the process comprising:

a) impregnating a phyllosilicate of montmorillonite structure with acid;

b) hydrothermally treating the phyllosilicate at a temperature of from 160°C to 300°C and water vapor at a partial pressure of from 4 to 80 bar_{abs};

c) washing the phyllosilicate with an aqueous solution at a temperature of from 20°C to 200°C until the solution obtained after washing is neutral.

Claim 36. (New) The process according to claim 35, wherein the aqueous solution is acidic.

Claim 37. (New) The process according to claim 36, wherein the aqueous solution comprises a solution of hydrochloric acid.

Claim 38. (New) The process according to claim 37, wherein the solution of hydrochloric acid contains 1 to 30 parts of hydrochloric acid.

Claim 39. (New) The process according to claim 35, wherein the aqueous solution is basic

Claim 40. (New) The process according to claim 35, wherein the aqueous solution is neutral.

Claim 41. (New) The process according to claim 35 further comprising:

d) cleaning the catalyst by burning off organic carbon compounds at a temperature of from 300°C to 1000°C.

Claim 42. (New) The process according to claim 35, wherein the washing is at a temperature of from 70°C to 90°C.

Claim 43. (New) The process according to claim 35, wherein the acid is a mineral acid.

Claim 44. (New) The process according to claim 35, wherein the acid is phosphoric acid.

Claim 45. (New) The process according to claim 44, wherein the catalyst is impregnated with 10 wt.% to 90 wt.% of phosphoric acid.

Claim 46. (New) The process according to claim 45, wherein the catalyst is impregnated with 30 wt.% to 40 wt.% of phosphoric acid.

Claim 47. (New) The process according to claim 45, wherein the catalyst is impregnated with 50 wt.% to 60 wt.% of phosphoric acid.

Claim 48. (New) A process for the production of a catalyst support with an aluminum content of less than 0.03 wt.%, the process comprising:

a) impregnating a phyllosilicate of montmorillonite structure with acid;
b) hydrothermally treating the phyllosilicate at a temperature of from 160°C to 300°C and water vapor at a partial pressure of from 4 to 80 bar_{abs};
c) washing the phyllosilicate with an aqueous solution at a temperature of from 20°C to 200°C until the solution obtained after washing is neutral.

Claim 49. (New) A process for the hydration of C_2 or C_3 olefins comprising reacting the C_2 or C_3 olefin with water in the presence of a catalyst support with an aluminum content of less than 0.3 wt.%, wherein the catalyst is produced by a process comprising:

a) impregnating a phyllosilicate of montmorillonite structure with acid;
b) hydrothermally treating the phyllosilicate at a temperature of from 160°C to 300°C and water vapor at a partial pressure of from 4 bar_{abs} to 80 bar_{abs}; and
c) washing the phyllosilicate with an aqueous solution at a temperature of from 20°C to 200°C until the solution obtained after washing is neutral.

Claim 50. (New) The process according to claim 49, wherein the C_2 or C_3 olefins and the water are in a gaseous state.

Claim 51. (New) The process according to claim 49, wherein the C_2 or C_3 olefins and the water are in a molar ratio of from 0.1 to 0.8.

Claim 52. (New) The process according to claim 49, conducted at a temperature of from 170°C to 300°C.

Claim 53. (New) The process according to claim 49, conducted at a pressure of from 20 bar_{abs} to 200 bar_{abs}.

Claim 54. (New) The process according to claim 49, wherein the acid is phosphoric acid.

Claim 55. (New) The process according to claim 49, wherein the acid is a mineral acid.

Claim 56. (New) The process according to claim 49, wherein the process is conducted in a reactor.

Claim 57. (New) The process according to claim 56, wherein the C_2 or C_3 olefins and the water are introduced into the reactor in a gaseous state.

Claim 58. (New) A process for the hydration of C_2 or C_3 olefins comprising reacting gaseous C_2 or C_3 olefin with gaseous water in a reactor in the presence of a catalyst support with an aluminum content of less than 0.3 wt.%, wherein the catalyst is produced by a process comprising:

a) impregnating a phyllosilicate of montmorillonite structure with acid;
b) hydrothermally treating the phyllosilicate at a temperature of from 160°C to 300°C and water vapor at a partial pressure of from 4 bar_{abs} to 80 bar_{abs}; and
c) washing the phyllosilicate with an aqueous solution at a temperature of from 20°C to 200°C until the solution obtained after washing is neutral.

wherein:

a) the C_2 or C_3 olefin and the water are in a molar ratio of from 0.1 to 0.8;
b) the catalyst comprises from 5 wt.% to 60 wt.% of the acid; and
c) the hydration is conducted at a temperature of from 170°C to 300°C and a pressure of from 20 bar_{abs} to 200 bar_{abs}.

Claim 59. (New) The process according to claim 58, wherein the acid is phosphoric acid.

Claim 60. (New) The process according to claim 58, wherein the C_2 or C_3 olefin is ethane, the hydration temperature is from 220°C to 260°C, and the pressure is from 60 bar_{abs} to 80 bar_{abs}.

Claim 61. (New) The process according to claim 58, wherein the aluminum content is less than 0.03 wt.%.

Claim 62. (New) A catalyst support comprising phyllosilicates of montmorillonite structure having an aluminum content of less than 0.3 wt.%, a total pore volume of from 0.2 mL/g to 0.9 mL/g, and a compressive strength of at least 10 N/mm.

Claim 63. (New) The catalyst support according to claim 62, wherein the total pore volume is from 0.6 mL/g to 0.7 mL/g.

Claim 64. (New) The catalyst support according to claim 62, wherein the compressive strength is at least 20 N/mm.

Claim 65. (New) The catalyst support according to claim 62 shaped spherical shape with a diameter of from 1 mm to 10 mm.

Claim 66. (New) The catalyst support according to claim 65, wherein the diameter is from 4 to 6 mm.

Claim 67. (New) The catalyst support according to claim 62, wherein the aluminum content is less than 0.03 wt.%.